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User satisfaction and User behavior of e-Governance services in Pakistan: Does youth drive acceptance of technology?

Master's thesis

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I hereby declare that I have compiled the thesis independently and all works, important standpoints and data by other authors have been properly referenced and the same paper has not been previously presented for grading.

The document length is **9064** words from the introduction to the end of the conclusion.

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Abstract:

E-governance is claimed to becoming more important in public administration as it offers better efficiency, transparency, and citizen engagement. However, the success of e-governance depends on user satisfaction and their continued usage. The study will investigate the factors of user satisfaction and how it influences the adoption and usage of e-governance services in developing countries through the case study of youth in Pakistan.

The concept of focusing on user-satisfaction and studying user behavior in e-Government services is relatively new to Pakistan, further considering it to target youth population and we study how under the light of this research; we can find meaningful relationship from user-satisfaction, trust, Behavior intention and user behavior that Pakistani youth is influencing the technology acceptance. Methodology used in the paper is a hybrid of questionnaire survey and interviews which were aimed at youth in Pakistan. Quantitative part of the study was used to confirm and further take the findings of quantitative part of the research. Total number of respondents were 102 for quantitative research part and 4 for qualitative research part.

This thesis uses case study method to discover a strong connection between the variables being examined, and all the relationships leading to youth leading the acceptance of technological services in public sphere were confirmed, indicating a significant relationship between them. User-satisfaction will lead to behavior intention of using those e-government services and platforms by youth in Pakistan and trust has a direct impact on user satisfaction in this context. All of this leads to youth building an environment of technology accepting citizens.

Keywords: User-Satisfaction, Trust, Behavioral intention, User behavior, Youth, e-governance in Pakistan, acceptance of technology.

1. Introduction:

Introduction of e-governance platforms in countries around the world is claimed to have revolutionized the way citizens interact with their government (Labelle, 2008). These platforms are believed to provide citizens with convenient, accessible, and efficient ways to access government services, pay taxes, and engage with government officials. Such initiatives have claimed to create environment for transparency, participation and trust (Bertot et al., 2010). However, for e-governance platforms to be successful, citizens must trust and use them (Kurfalı et al., 2017). User satisfaction and trust are a critical factor that can influence citizens' behavioral intentions and user behavior amongst many other factors. (Lee-Geiller & Lee, 2019) argues the difference between what citizens expect from their government and what the government is able to provide is causing people to be unsatisfied with their government. This is leading to a lack of trust in government, which is a problem for many countries, as less than 43% of people in advanced countries trust their government (Lee-Geiller & Lee, 2019). In relationship to trust in government and reflection of that trust in e-governance services, (Horsburgh et al., 2011) found that trust in government was not correlated with trust in e-government service provision but was associated with support for e-government investment. Though it argued E-government can be used as a tool to increase citizen trust in government and improve citizen evaluations of government generally.

E-government has expanded and developed significantly around the world, be it developed or developing country (M. Alshehri et al., 2012). There are many potential benefits of e-governance that remain unrealed by developing countries due to their limited use of e-governance (Singh et al., 2010). Governments must acquire the appropriate knowledge and skills to effectively address these challenges, while simultaneously addressing and resolving the persistent issues present in the political, economic, and social landscape (Labelle, 2008). Evidently youth is tech savvy and want digital solutions to public services (Horsburgh et al., 2011).

1.2. Problem statement:

This study has recognized the limited work done in the e-governance context regarding impact of user satisfaction, trust, behavioral intention and user behavior regarding youth's technology acceptance of e-governance sphere in developing countries such as Pakistan. It has been established from the prior studies that user satisfaction effects trust, behavioral intention and user behavior positively yet the gap that needs further research is technology savviness of youth in countries that are still developing from point of view of the cultural impact of these factors. The details can be read in introduction and literature review of this study. It can be seen through literature review that a lot of work has been done regarding the relationship of these variables separately and in connection to each other. However, most researches done do not reflect on the context sufficiently. The dynamics in developing countries like Pakistan where the population is young and increasingly tech-savvy but the government is in disarray, it is of interest to consider the user-behavior and satisfaction amongst the youth to study if aspirations of the youth by itself drive adoption and acceptance of use of technology in public service delivery or not.

This study seeks to address the research question: Does youth drive acceptance of technology in the e-governance context of Pakistan? And what is the impact of user-satisfaction and user behavior in this context.

1.3. Significance of the study:

Despite the studies conducted on user-satisfaction and e-governance, they have not comprehensively addressed the perspectives and experiences of the majority of young citizens which make the most of the population in developing countries such as Pakistan, nor do they sufficiently explore the relationship of the factors that contribute to user satisfaction in the context of e-governance in these regions. This thesis uses case study method to find the acceptance of technology in Pakistani youth in context of e-governance keeping it in the light of user-satisfaction, trust, intention to use and User behavior.

The results of this study will provide insights aspect of the driving factors in use of technology in e-governance. This will provide guidance for policy making for e-governance platforms in developing countries such as the case of Pakistan. Pakistan is chosen for the representation of developing countries in the sphere of e-governance, to increase citizen trust and use. This will contribute to even future studies about the e-governance in Pakistan and it would shed light to the present practices, perception of young citizens and suggestions that may direct the future strategies used by the state for their e-initiatives in governance for not just Pakistan but also other developing countries. Data collection methodology chosen for this thesis is to survey youth activists, Student Union members, volunteers and university students to gather enough data regarding youth satisfaction and trust in the e-gov platforms and technology acceptance of this target audience in specific region of Lahore and Islamabad, Punjab, Pakistan. This methodology is selected to this region and segment as they are the most progressive cities in Pakistan when it comes to education, use of digital apps in a daily basis so as to make it the right segment to further understand the level of satisfaction with government's e-platforms and services to citizens.

2. Theoretical background and literature review:

International development agencies consider e-governance as a crucial priority and a significant component of the good governance agenda. The findings from numerous studies indicate that although importance of investing into e-service technologies is very evident in the industry special focus on improving user satisfaction, yet a significant number of them are not achieving the desired outcome of meeting customer expectations (Matthew L. Meuter, 2000). Hence, for understanding user satisfaction and engagement, it is important to comprehend the aspects of services that users find valuable (Khan et al., 2015).

Early studies highlighted the need for a citizen-focused strategy in e-Government, with the end goal being to ensure user satisfaction (Carter & Belanger, 2004). This means that services should be customized to address the varied requirements of citizens. Factors like accessibility, user-friendliness, trust and convenience play a significant role in enhancing satisfaction. The ultimate aim is to make citizens happy with these services, as that's a key measure of success. To ensure citizens are satisfied with services, it's important to customize them according to their diverse needs (Wang & Liao, 2008). User satisfaction is important in business and product design as it influences whether a user will continue to use the product, recommend it, or choose a different one in the future (Oliver, 1980). In context of e-governance, according to (Hawaii et al., 2005a) user-satisfaction essentially refers to how pleased or content citizens are with the online or digital services offered by their government. This doesn't just cover the basic functionality of these services, but it extends to the complete interaction citizens have with them and the overall experience they have when using them. Satisfied users are more likely to adopt e-governance services, spread positive word-of-mouth, and contribute to the overall success of e-governance initiatives. Various factors influence user satisfaction in e-governance, including trust, system quality, information quality, service quality, ease of use, and perceived usefulness (Alawneh et al., 2013). It can be argued that transparency and above-mentioned factors add to the perception of accountability in citizen's mind and that generates the feeling of security and privacy for the citizens that are willingly using e-government platforms (Sachan et al., 2018b).

Alawneh (2013) provides wide range of determinants of satisfaction in literature:

Determinants of satisfaction	References in literature
Infrastructure, availability, awareness, cost, technical aspects, customer friendliness, security/privacy, content, usability User interface quality, information quality, perceived security, and perceived privacy Information quality, system quality, service quality, use	Verdegem and Verleye (2009) Eid (2011) Rai et al. (2002), Wang and Liao (2008); Wang and Tang (2001) Hammer and Al-Qahtani (2009) Welch et al. (2005) Tung and Rieck (2005) Schaupp and Carter (2005) Yang et al. (2009) Grigoroudis et al. (2008)
Desire to use, access, confident of security and privacy Citizen trust in e-Government, government website use Awareness of e-Government services, security and quality of services Perceived usefulness, compatibility and trust Experiential value, transaction cost, and service quality Customer preferences and includes the estimation of the relative importance and the demanding level of the different user satisfaction dimensions, and the satisfaction benchmarking analysis, which is mainly focused on the performance evaluation of the competitive organizations against the satisfaction criteria, as well as the identification of the competitive advantages of each company Customization, interaction, convenience and character, switching costs, internet experience Perceived usefulness, website information satisfaction, computer anxiety, perceived enjoyment, website system satisfaction Ease of use, design, speed, security, information content, and customer support service, and the effects of experience on the relationships between these and customer satisfaction System quality, information quality and interface design quality Computer anxiety, overall e-service quality, website information satisfaction, website system satisfaction European customer satisfaction index (perceived quality, perceived value, expectations of customers, and image of a firm)	Chang and Chen (2008) Kang and Lee (2010) Yoon (2010) Lee and Chung (2009) Lee et al. (2009) European Customer Satisfaction Index http://www.van-haaften.nl Martensen, Kristensen and Gronholdt (2000). Zavareh et al. (2012) Batini et al. (2009) American Customer Satisfaction Index www.theacsi.org The original Swedish Customer Satisfaction Barometer model http://www.van-haaften.nl The Canadian Common Measurement Tool (CMT). www.iccs-isac.org
e-Service Quality (e-SQ), security/trust, site aesthetics, and ease of use of the internet banking services Temporal accessibility, user time, service provision, level of simplification, channel availability. American customer satisfaction index (perceived quality, perceived value, customer expectations.	
Perceived performance, customer expectations.	
Accessibility/usability, quality of information/content, quality of interaction, privacy, security, and trust in internet/government.	

Figure 1: Determinants of satisfaction (Alawneh et al., 2013)

There is limited evidence to suggest that factors other than technical performance (e.g., trust in government, government corruption, etc.) affect citizen engagement with e-government. However, these factors are likely to play an important role in influencing citizens' intentions to adopt e-government (Hussain, 2020). The availability of effective e-governance facilities provides people with better quality information, which leads to increased trust in decisions made and communicated by local governments (Hooda et al., 2022). Based on good governance theory, it can be deduced that using e-government websites can lead to effective e-governance, which builds trust in local governments (Hartanto et al., 2021). Ensuring that users have trust in the security and reliability of e-government systems is essential for promoting their adoption and use, (Hooda et al., 2022) found that trust in e-government systems is influenced by expectations about how the system will work and by factors like the effort people are willing to expend on using the system, the social pressure exerted by others, and the conditions under which it is available.

Nguyen (2020) illustrated that it's crucial for users to be aware of the information as to accurately and easily understand and use e-government platforms in order to meet their needs and expectations. Many studies have concluded that service quality is often considered as the primary

indicator of user satisfaction (Mosahab et al., 2010). This suggests that the level of service quality provided by e-governance portals can have a significant impact on user satisfaction. Several studies have found that making government services accessible to everyone is important for their success. (Heeks, 2006) argues that this is because it makes it easy for citizens to access the services and participate in decision-making processes. The four-stage model proposed by (Layne & Lee, 2001) suggests that e-government services need to be accessible to all before they can be considered fully functional. This includes making sure that these services are easy to use and understand for all, regardless of disability.

Studies have consistently shown that there is a strong connection between user satisfaction and trust in e-government. The more trust users have in the platform, the more satisfied they are likely to be (Carter & Weerakkody, 2008). One recent study by (Li, 2021) found that trust is a key factor in determining user satisfaction, with higher levels of trust leading to greater satisfaction with e-government services. In their study, (Rehman, Kamal, et al., 2012a) emphasized the importance of trust in e-Government systems. They discovered that when there is a lack of trust, it becomes a significant barrier that hinders the adoption of e-Government services. Belief in the reliability of technology plays a crucial role in establishing trust. (Srivastava & Teo, 2009) suggested that trust in the government and trust in the internet were key factors that influenced people's willingness to use e-Government services. Research shows that trust can reduce the perceived risks and uncertainties associated with online interactions and increase citizens' willingness to use e-government services. When citizens trust the e-government system, they view it as dependable and credible, which encourages them to make use of the services provided (Wang & Liao, 2008).

There are several factors that contribute to the likelihood of individuals using e-government services, such as a trust in both the internet and government, expectations of good performance and ease of use, and favorable conditions (Almaiah & Nasereddin, 2020). If users are satisfied with their e-government experiences, they are more likely to have positive intentions, such as continued usage, active participation, and recommendations to others (Davis, 1989).

(Bhattacharjee, 2001) has suggested that there is a connection between how satisfied users are with a service and their intention to use it. (A. Alshehri, 2016) discovered that satisfied users are more likely to reuse e-government services, emphasizing that user satisfaction can influence

future Behavior intention. (Carter & Weerakkody, 2008) proposes that trust in e-government services is based on three factors: trust in the government, trust in the technology, and trust in the transaction process. These factors greatly impact users' willingness to use e-government services. Research has shown that trust in online services has a significant impact on how users behave, such as whether they choose to use and continue using these services (Srivastava & Teo, 2009) (Verdegem & Verleye, 2009a). Previous research has shown that two factors are especially important in influencing people's decision to use or not use information technology: how helpful people believe the technology will be in their job, and how much importance they place on using the technology (Davis, 1989). Awareness, trust in the internet, and trust in the government are significant factors that influence citizens' intention to adopt e-government services (Rehman, Esichaikul, et al., 2012).

A popular model used to study behavioral intention in e-governance is the Technology Acceptance Model (TAM) (Davis, 1989). The TAM posits that perceived ease of use and perceived usefulness significantly impact an individual's intention to use a technology. Several studies have utilized the TAM framework to examine e-governance, often customizing it to address unique context-specific factors (Alawadhi & Morris, 2008; Miha Cimperman, 2016). Another widely used model is the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) which integrates elements from several existing models. In the context of e-governance, the UTAUT has been employed to explore how factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions affect behavioral intention (M. Alshehri et al., 2012). The Expectation–Confirmation Theory (ECT) was proposed by Oliver (1980) to study consumer satisfaction and re-purchase behavior. The ECT theory states that consumers firstly form an initial expectation prior to purchase, and then build perceptions about the performance of the consumed product/service after a period of initial consumption (Alawneh et al., 2013)

User behavior in e-governance is a multifaceted concept that encompasses the actions, preferences, and patterns of individuals when interacting with electronic government services (Alshawi & Alalwany, 2009). It entails the ways in which citizens, businesses, and other stakeholders engage with and navigate digital platforms provided by the government to access information, submit applications, or participate in decision-making processes (Hawaii et al., 2005b). Studying user

behavior helps governments improve user experiences, optimize service delivery, and tailor online platforms to meet public needs (Layne & Lee, 2001).

It is mentioned that the perceived usefulness and ease of use of a system play a crucial role in influencing the intention to use it. This intention, in turn, has a direct impact on the actual behavior of using the system (Davis, 1989). Numerous models have been suggested to comprehend and forecast user behavior. Earlier research has highlighted the significance of user's participation in improving their satisfaction. It is argued that when end-users participate in decision-making, they gain a better comprehension of their needs, which leads to the development of more efficient systems and increased satisfaction levels (Heeks, 2006). Encouraging user participation can increase their sense of ownership and commitment, leading to higher levels of user satisfaction, according to (Mckeen et al., 1994).

(Srivastava et al., 2005) discusses the importance of citizen trust in the successful adoption and acceptance of e-Government initiatives. It identifies two dimensions of citizen trust: trust in the government's ability, motivation, and commitment for e-Government, and trust in the enabling technologies that they can use. (Haroula N. Delopoulos, 2011) states that citizens face various barriers when it comes to using e-Governance services, such as trust issues, concerns about security and privacy, and the need for culturally relevant content. However, by addressing these obstacles, there is potential for greater adoption of e-Governance services.

It is suggested that a comprehensive approach is necessary to fully understand e-participation and its components. E-governance user behavior can be analyzed through various lenses, such as psychological, sociological, and technological perspectives (Helbig et al., 2005). These analyses help in understanding the factors that influence users' adoption and continued use of e-governance services, which are crucial for the success of such initiatives (Bwalya & Healy, 2010a).

The advantages of involving users have been widely documented, however, there are also certain obstacles and restrictions that need to be taken into account. These may include user reluctance, the challenge of addressing the varying requirements of users, and the extra time and resources required for user participation (Kujala, 2003).

(Verdegem & Verleye, 2009b) argues that the level of user satisfaction can play a significant role in the widespread adoption and use of electronic government services. For measuring user satisfaction, it aimed to improve the quality of electronic government services and enhance their acceptance among citizen. (Venkatesh et al., 2003) notes that factors that influence user intent change over time and that some factors become less important as users gain experience. Though It also fails to take into account cultural factors that may affect user acceptance of technology which will be further explained in this thesis. (Young, 2008) argues that the goal of localization is to make products and services appealing to specific target groups by tailoring their design to fit their culture. On the other hand, internationalization aims to create a design that is culture-neutral and can be applied across different cultures.

For effective localization, (Young, 2008) mentions, it is important to understand the cultural needs and preferences of the target audience. It is recommended to focus on cultural demographics when designing for learners. By doing so, the design can become more specialized and culturally sensitive, leading to successful integration of technology, culture, and design (Young, 2008). It is safe to conclude for Pakistan, that localization is emphasized or at the least tried to achieve, it can be observed in the language and symbols used in the websites and applications of e-government of Pakistan which we will dive in further when case of Pakistan will be discussed. (Helen Margetts, 1969) discussion on the adoption of web-based technologies by government organizations is very important to mention: It has been slower than anticipated. In the past, government organizations were leaders in providing IT services, but they gradually lost their position and struggled with large-scale IT systems more than other organizations. This has influenced their negative attitude towards information and communication technologies, including web-based technologies.

The hierarchical approach of government bureaucracy can work against the benefits of e-government, including its contribution to a more connected government (Helen Margetts, 1969). Citizens may also resist using e-government services unless they have trust and are able to see a clear benefit in terms of time, money, or quality improvement, and may face transaction costs when adapting to new systems, hence (Bélanger & Carter, 2008) suggest that government agencies should budget trust-building strategies into their plan to address e-government trust issues. The

existing relationship between citizens and government organizations can also affect their willingness to use e-government services.

(Dardha & Ndou, 2004) considers that for developing e-government in developing countries such as Pakistan that considers their unique needs and limitations. It emphasizes three key areas: infrastructure and technology, policy and regulation, and human resource development. (Rahayu et al., 2022) suggests that a successful e-governance initiative in these developing countries must take into account the accessibility and affordability of technology, establish policies and regulations that support e-government, and invest in the education and training of government employees and citizens.

2.1. E-government in developing countries:

E-governance is believed to have the potential to promote development, decrease corruption, and enhance transparency in developing nations, according to (Dada, 2006). (Bwalya & Healy, 2010b) contend that the proper design and implementation of e-governance can enhance governance and service delivery. However, it is acknowledged by (Al-Shboul et al., 2014) that developing nations encounter substantial obstacles when it comes to establishing e-governance. These hurdles encompass a shortage of infrastructure, a digital divide, insufficient skilled personnel, and cultural challenges. Many countries and studies see digital governance as a promising driver for growth, an idea supported by (Heeks, 2001). It asserts that initiatives in digital governance could substantially enhance the government's operations by boosting their efficiency, effectiveness, and openness. Even though there are considerable advantages, implementing digital governance in developing nations isn't without substantial challenges. (Misuraca, 2007) points out the absence of necessary infrastructure, insufficient digital knowledge, and the prevalent digital divide as primary hindrances. In the same vein, (Heeks, 2003) emphasizes the need to bridge the gap between the design of e-governance initiatives and the actual realities on the ground.

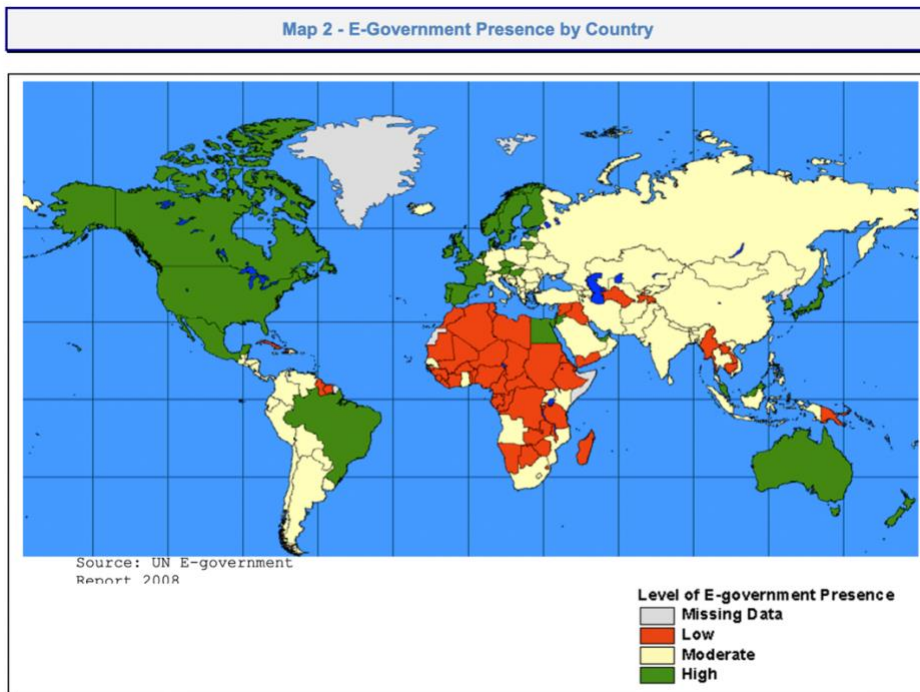


Figure 2: E-government presence by country (Labelle, 2008)

(Labelle, 2008) informs of categories from the United Nations (2008) report that the development of e-Government into five levels: Emerging, Enhanced, Interactive, Transactional, and Connected. Above chart displays the e-Government level achieved by each country. At the fundamental levels, Emerging and Enhanced, e-Government focuses on publishing basic information on the internet. As we move to moderate levels, Interactive and Transactional, governments utilize websites to facilitate two-way communication, conduct online transactions, and bring together content and services through portals. At high levels, Connected, governments harness the power of the internet to integrate services across various ministries, provide tools for public feedback and discussions, and personalize the web experience for each user using personalization and push technologies.

2.2 Youth and e-government:

More and more young people are using media tools to express themselves, discover who they are, and connect with others. Authorities and governments can take advantage of this by encouraging them to be active participants in their communities (Rheingold, 2008). Though youth today is not

satisfied with just receiving information from official sources and social media. Instead, they want to be actively involved in creating and sharing information themselves (C. J. Cohen et al., 2012). (Cathia Gilbert Riley, 2003) highlights that young people, being the most adept and engaged users of digital technology, could be key players in promoting e-governance. They have the ability to boost digital literacy, ease the adoption of digital governance services, and advocate for creative answers to issues in governance. Although engaging young people presents a hopeful prospect, various obstacles stand in the way, such as restricted access to information and communication technologies, a deficiency in digital literacy, and insufficient backing from policy (Omilusi, 2016). Nonetheless, strategies like digital literacy courses, making internet access more affordable, and implementing policies that focus on the youth can help mitigate these issues. Various studies demonstrate the potential of youth engagement in e-governance. In Nigeria, youth have played a crucial role in promoting e-governance through social media (Omilusi, 2016).

When young individuals engage frequently in these online spaces or communities, it can influence their beliefs about how communication and interaction should take place in other areas of life, such as government-citizen relationship (C. J. Cohen et al., 2012). According to Digital 2022 Global Overview Report, it has been determined that there are approximately 4.80 billion individuals using social media platforms worldwide as of April 2023. This figure represents roughly 59.9 percent of the total global population.

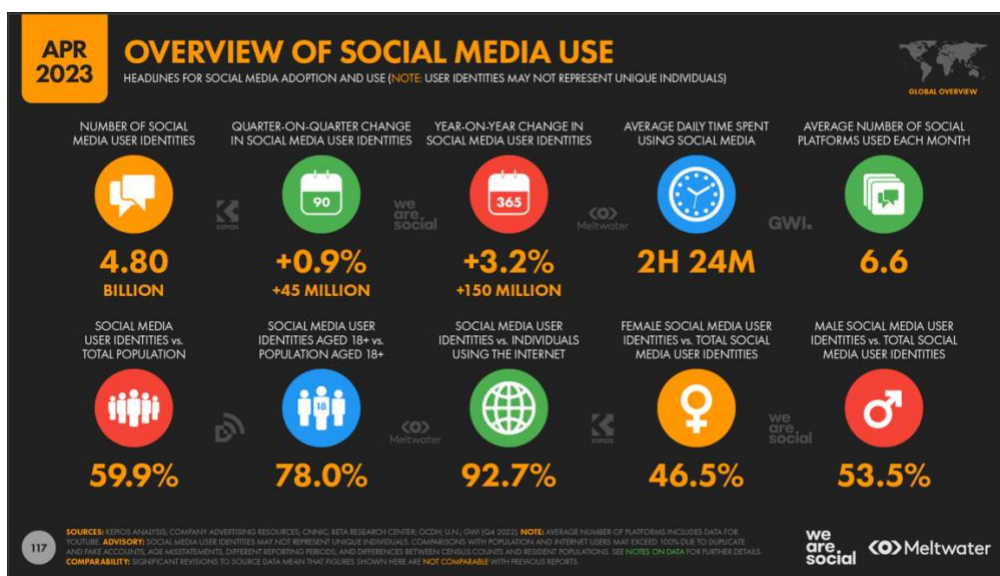


Figure 3: Social media use overview worldwide Data Portal (URL:

<https://datareportal.com/reports/digital-2022-global-overview-report>)

(Papers & Bailey, 2019) found that youth, who come from diverse backgrounds and possess various abilities, often face challenges when it comes to expressing themselves such as their disengagement in voting compared to other groups in society. Therefore, it is necessary to make targeted efforts to address the needs of this particular demographic (OECD, 2017). Studies found that young people are aware of the electronic services provided by the government and generally believe that these services have had a positive impact on their daily lives and the government's functioning (Juurikas, 2015). (United Nations, 2012) emphasizes the importance of young people participating in government and decision-making, including electronic government initiatives. It emphasizes the potential advantages of involving young people in shaping policies, promoting transparency, and increasing citizen participation. One possible method to involve various types of young people is by utilizing e-services to encourage their active participation such as EU Youth Strategy 2019 to 2027 aims to actively involve and empower young people in EU policies and society at all levels (Pietilä et al., 2021). It also suggests that instead of simply measuring the quantity of young people's participation, more attention should be given to the quality of their involvement.

3. Methodology and case selection:

Importance of high-quality case study research is that it focuses on rigor, validity, and reliability, and the need for researchers to carefully consider whether a case study is the most appropriate method for their inquiry project (Hollweck, 2015). Case study methodology is defined as “investigation of a contemporary phenomenon (the “case”) in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident.” (Robert K. Yin, 2018). Use of mixed method approach, which is both qualitative and quantitative data collection method, can neutralize the flaws of one method and strengthen the benefits of the other, resulting in better research results (Hussein, 2009). The divisions between quantitative and qualitative research methods only limit the scope of approaches and hinder the potential for fruitful collaboration in research. (Almalki, 2016). Hence, the nature of the research problem in this study requires use of mixed approach using both surveys and interviews.

The objective of this research is to determine whether young people in the country drive the acceptance of technology. It explores the youth population in Pakistan and their satisfaction with and behavior towards e-Governance services. The study also examines the relationship between these factors in the context of Pakistan. The choice of Pakistan as the case study is motivated by several factors. Firstly, the majority youth population in Pakistan makes it an ideal case to study for other developing countries. Secondly, the recent surge in digital advancements and the acceptance of technology in Pakistani society provide a good basis for investigation. Additionally, factors like user satisfaction and trust have cultural dimensions, and this study seeks to contribute to the understanding of these factors in the realm of e-governance in a developing country such as Pakistan, taking into account their cultural context. It is worth noting that Pakistan's political sphere is unstable, yet the youth's trust in e-government services is evident through their acceptance and demand for digital solutions.

4. The case: Pakistan's e-governance and youth:

The inception of Pakistan's e-government endeavor can be traced back to the establishment of the Electronic Government Directorate in 2002. Later, in 2014, it was combined with the Pakistan Computer Bureau to create the (NITB) National Information Technology Board (Muhammad Anwar Farooq, 2021). In 2018, Digital Pakistan Policy initiative was introduced. An essential focus of the "Digital Pakistan Policy" is to establish an e-government system in which governmental processes transition to a paperless environment, and interactions among businesses, citizens, and the government are conducted in a digitized manner (Ministry of IT & Telecom, 2008). Till date Punjab IT Board (PTIB) has developed 21 online mobile and digital applications to digitise its government services (AlphaBeta, 2021). One such online e-government portal is called Pakistan citizen portal. The "Pakistan Citizen Portal" is an internet-based platform that facilitates the connection between citizens and various federal and provincial government organizations. Through this portal, citizens with internet access can easily submit complaints and requests (NITB, 2002). Pakistan citizen portal uses local language, which shows the efforts of Pakistani government to make it inclusive for more people.

Similar to other developing nations, Pakistan confronts several difficulties and obstacles in implementing e-governance (*E-Government.Gov.Pk*, 2002). Government websites in Pakistan currently operate in a unidirectional manner, lacking the necessary functionality for interactive engagement. Consequently, there is a demand for the establishment of transactional web portals that facilitate both Citizen-to-Government (C2G) and Government-to-Government (G2G) interactions (Institute of Electrical and Electronics Engineers. et al., 2010).

4.1. Pakistan's contemporary status as a country in political crisis:

“Weak state's drift into patrimonialism or repatrimonialization may be [be] inevitable. The term Patrimonialism was coined by the doyen of social and political scientists, Max Weber. It denotes a situation or condition where the objective interests of the state meld with the subjective interests of the regime in power” (Qazi, 2013). This fits perfectly to the political condition in Pakistan over

the years of its creation. In a context characterized by inadequate governance, individuals tend to increase their corrupt practices. It is imperative to address the issues of political instability and governance quality as they play vital role in state growth (A. Haider et al., 2011). Political stability is essential for nation's economic progress, social cohesion, and the establishment of a strong legal system. It is a prerequisite for nation-building, more cohesive society, which is vital for state-building, including the development of the state's administrative infrastructure (Aslam Pervez Memon et al., 2011).

For numerous years, the state has experienced evident shortcomings from Political and legal aspects, yet the notion of the Pakistani nation itself is also subject to debate and disagreement. The complex dynamic and conflict between these two aspects render Pakistan a uniquely significant and noteworthy case for examination (S. P. Cohen, 2002). “Pakistan’s unique feature is not its potential as a failed state but the intricate interaction between the physical, political, legal entity known as the state of Pakistan and the idea of the Pakistani nation.” (S. P. Cohen, 2002). The government of Pakistan encounters various challenges linked to corruption, including sociopolitical concerns. Political competition among multiple parties in Pakistan may worsen the political situation, leading to inconsistent and conflicting government policies. Since e-Government implementation depends on government funding, the unstable political environment poses challenges in governing these projects effectively (Z. Haider et al., 2016)

4.2. Youth in Pakistan:

“Any study of human development is incomplete without considering demographic transition; a phenomenon likely to have a profound impact on Pakistan’s future, given its young population.” (Shakeel Ahmed, 2018). Hammad (2019) suggests that to increase citizen adoption of e-government services, policymakers should focus on improving facilitating conditions, performance expectancy, and effort expectancy. Additionally, it found that government trust moderates the relationship between attitude and e-government adoption.

Studies have found that including young people in the creation and execution of online government services can result in more efficient, easy-to-use, and widely available public services (Asgarkhani,

2005). Additionally, by involving young individuals in the development of digital government services, governments can take advantage of their inventiveness, innovative ideas, and comfort with modern technology (Srivastava et al., 2005). Nevertheless, existing research suggests that there's still not enough participation from young people in the planning and decision-making processes of e-government services (Porra & Hirschheim, 2007).

There is much awareness of e-government and a majority of young people have access to internet facilities and prefer to use online portals in Pakistan (Soomro et al., 2015). It suggests targeting the young generation for the adoptability of e-government services as they are the best target audience who can accept and adopt change and innovations.

Social networking platforms are elevating the degree of online political engagement among the youth in Pakistan by offering them access to political information. A significant majority of young individuals engage in political discussions and actively participate in political discourse on these platforms (Javaid, 2017).

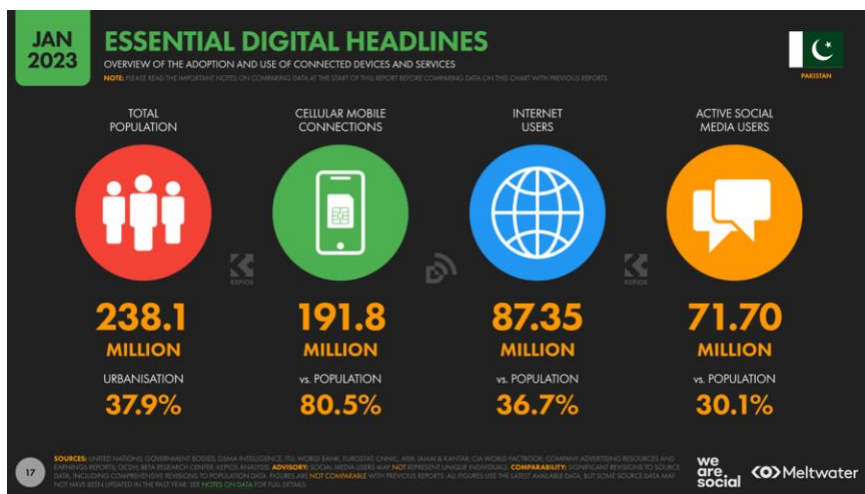


Figure 6: Digital stats on Pakistan (Simon Kemp, 2023)

4.3. E-governance challenges in Pakistan:

The 2020 E-government Development Index shows that the South Asian region is below the global average, looking at Pakistan, as a representative of this group; amongst the ranking to stand to the seventh among eight countries. Despite establishing the Electronic Government Directorate (EGD)

in 2005, Pakistan has experienced a very low adoption rate for e-government services (Zahid et al., 2022). Based on the 2022 UN e-government Survey Reports for developing countries, Pakistan is 106th in the ranking of E-Participation Index (Figure 2.1) which is +3 from last year when Pakistan stood 103rd in the rankings. Pakistan is visibly below sub-regional, regional and world average. If we look at the stats in relation to prior years, we can see Pakistan has fluctuating numbers which gives way to further work in e-governance sphere. To the best of researchers' knowledge, there have been a limited number of studies exploring the behavioral intention to adopt e-government services in the South Asian context, such as in Pakistan (Zahid et al., 2021).

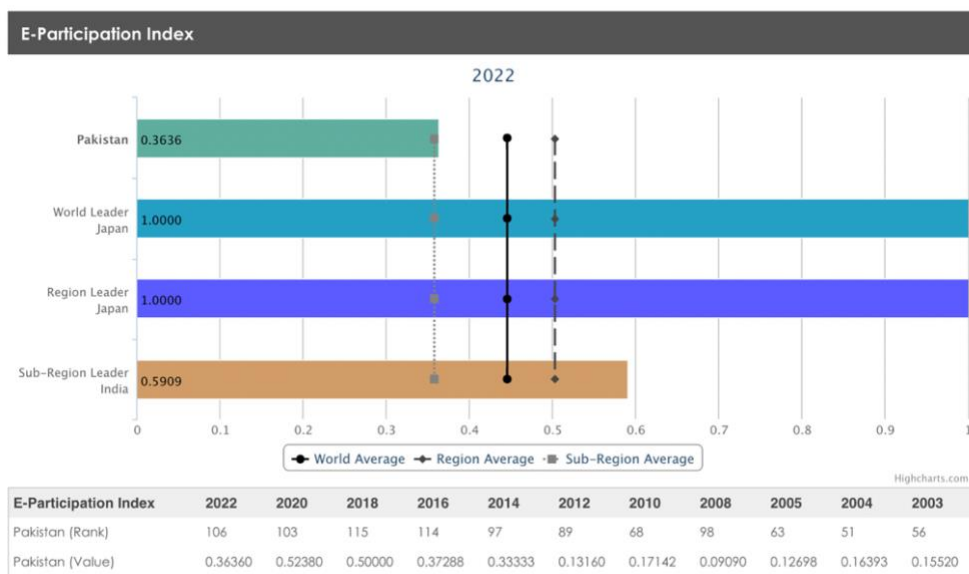


Figure 7: E-participation Index 2022 UN e-government Survey Reports

If we look at Online Service Index (OSI) from UN 2022 report. It looks promising that OSI for Pakistan has an increase of 68%, making Pakistan into High OSI countries. But if looked closer it can be seen that Pakistan exhibited significant deficiencies in service provision and e-participation, displaying poor performance in these areas. However, it achieved a flawless score in content provision, indicating excellence in delivering relevant information and resources. Additionally, Pakistan demonstrated substantial progress in developing its institutional framework, receiving a high score in this aspect.

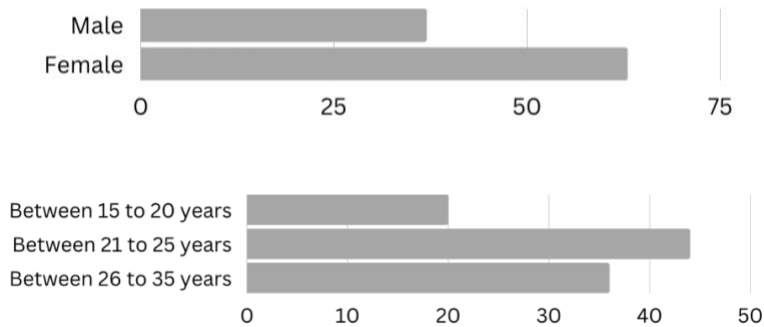
4.4. Research design:

This study focuses on research to study the acceptance of technology in Pakistani youth in context of e-governance keeping it in the light of user-satisfaction, trust, intention to use and User behavior. The problem which is catered in the research is how youth's tech savviness drives citizen's acceptance of e-governance services in the state. In this research sample units are individuals who are University students in Pakistan to represent youth and they are the potential targeted and active users for many e-governance platforms today. The response type we have selected are students from both genders and ages between 15 to 35. The questionnaire survey was shared across various social media channels such as Facebook, Instagram, WhatsApp, Twitter, alongside email distribution of the survey. Research design for this study is hybrid hence via both survey and interviews we will collect data. For quantitative research design we have collected data through questionnaire as the data, as we need a significant number of responses to draw meaningful conclusions. I conducted interviews or focus groups to further gain a more comprehensive and accurate understanding of the particular subject. The sample consists of four interviewees representing various groups: employed youth, unemployed youth, digital activist, and local student. The interviewees were selected from Islamabad and Lahore, two locations known for advanced usage and accessibility of digital tools in Pakistan. In-depth interviews were conducted via audio call, lasting 20-30 minutes each. The respondents were informed of the ethical use of their data, ensuring their consent and confidentiality. The data collection method enabled the researcher to gather rich and diverse opinions on the subject matter. The study employs a Narrative Inquiry approach as its qualitative research design. This choice allows for capturing informal opinions and experiences of the sample respondents, which can then be tied back to the more formal and strict part of the study: the quantitative analysis.

5. Results:

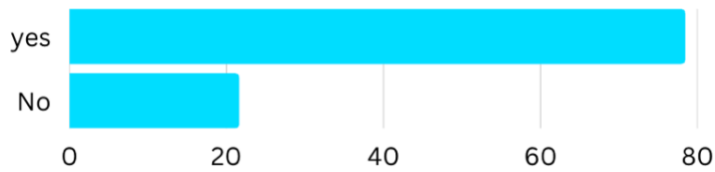
Respondents aged between 21 and 35 were highest to be engaged in the survey questionnaire. They demonstrated highest level of inclination towards adopting e-governance platforms and expressing their satisfaction, trust and experience with these platforms. They displayed greater enthusiasm in utilizing digital platforms for government services, showcasing a positive impact on the overall acceptance rate. The research was presented as a "public opinion poll," and participants were asked if they have used e-governance services in Pakistan if so to consider any service(s) they have used while answering the survey questions. This matters because the research wants to explore how the satisfaction of citizens influence the intentions to use the e-governance services and platforms again, without focusing on a particular product.

Graph 1: Gender and age of respondents

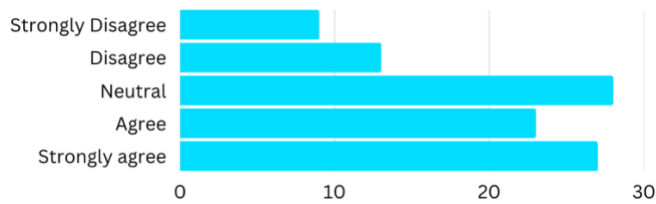


Respondents were asked to elaborate on their usage of e-government services. However, we must exercise caution in fully relying on the responses with an answer of 'No.' This is because further examination of other responses from the same respondents revealed instances where they did indeed use e-government services in Pakistan. The discrepancy in responses might be attributed to various factors, such as respondents' interpretation of the term "e-government services" or potential oversight during the survey process. Therefore, a more thorough analysis and cross-referencing of the data are essential to accurately determine the extent of e-government service usage among the respondents.

Graph 2: Have you used e-governance platform in Pakistan?

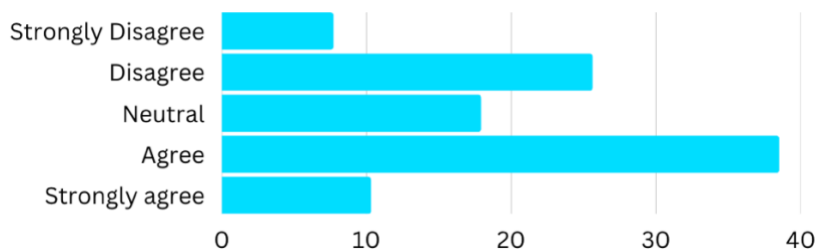


Graph 3: I would feel a loss if e-gov services are not available anymore



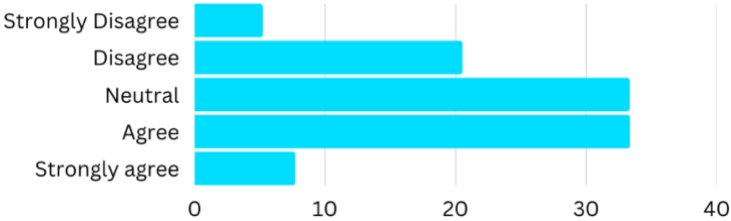
Respondents were asked to elaborate on their feelings about the potential unavailability of e-government services. The majority of people responded with either a strong agreement or agreement stance, indicating their dependence on these platforms. This highlights the significance of e-government services as integral tools that citizens rely upon for various governmental interactions and information access. The respondents' inclination towards a neutral response also warrants attention, as it suggests a certain level of uncertainty or indecision regarding the potential loss of e-government services. This ambivalence could arise from a mix of factors, including the availability of alternative means to access government services or a lack of awareness about the full extent of services offered through e-government platforms.

Graph 4: I am willing to say positive things about e-governance platforms in Pakistan



Respondents were asked to share their level of satisfaction with e-governance services in Pakistan. The majority of people responded with agreement, indicating a positive outlook on their experience with these digital services. However, it is noteworthy that the second-largest group of respondents expressed disagreement, suggesting that a significant portion of the population has reservations or concerns regarding the effectiveness or accessibility of e-governance services in the country. Some possible explanations for the agreement could be the convenience and efficiency offered by e-governance services, allowing users to access government information and complete administrative tasks from the comfort of their homes. On the other hand, those expressing disagreement might have encountered issues such as technical glitches, unclear processes, or limited-service coverage, leading to a less satisfactory experience.

Graph 5: I trust the e-governance services in Pakistan



Respondents were asked about their level of trust in e-governance services in Pakistan. Interestingly, an equal number of respondents chose to stay neutral and agreed, suggesting a balanced distribution of trust perceptions among the participants. The neutrality expressed by a significant portion of the respondents could be attributed to various factors. Some individuals might have limited experience with e-governance services and, therefore, refrain from forming strong opinions. Others may have reservations or uncertainties about the security and reliability of these digital platforms, leading to a cautious or undecided response.

I'm more likely to use e-governance products rather than physical ones if it satisfies my needs.

Respondents were asked about their likelihood to use e-governance products over physical ones if they satisfy their needs. The majority of respondents expressed agreement, indicating a strong

inclination towards utilizing e-governance products when they meet their requirements. The positive response from the majority of respondents underscores the growing preference for digital solutions in government services. Factors such as convenience, accessibility, and time-saving benefits are likely to contribute to this inclination towards e-governance products. Users appreciate the ease of accessing government services online, completing transactions from their own devices, and avoiding the need to visit physical government offices.

The qualitative study seeks to collect valuable insights from a diverse group of youth with varied backgrounds and current circumstances. The main objective is to explore how these individual factors influence the adoption of technology in the e-governance sphere. Additionally, the study examines the elements such as user satisfaction and trust in shaping the youth's acceptance and usage of e-governance services.

In response to user-satisfaction all respondents agreed that they're somewhat satisfied with the e-governance platforms such as Rasta as one respondent mentioned. The interviewees also agreed that they have concerns regarding trusting government in Pakistan as there are many factors that add to it such as corruption, low level of belief in the government capacity and intention. They agreed that they are satisfied with the e-governance services but very cautious to share their data. All agreed to have low tolerance to risk when it came to privacy and security of their data on even e-governance platforms. Two respondents shared that if the leaders of an e-government project are knowledgeable and strategic enough to anticipate and plan for potential management and political obstacles, then they should be able to effectively manage any risks associated with the projects and gain more trust from the citizens. Most of the respondents believed that unreliability is a factor that hinders the usage, trust and hence their satisfaction but they agreed this factor can be ignored as they would prefer to have digital services rather than have to avail state services in person. There was a strong understanding amongst the respondents that there was a need for betterment in the services in terms of user-friendly environment of the Apps or websites, more functionality and added features.

In response to the user-satisfaction factors such as trust, awareness, accessibility, quality of service and security and privacy. Two of the respondents agreed that for them to be satisfied with the e-

governance platforms of Pakistan two most important factors are accessibility and quality of service. All of the respondents seemed satisfied with the e-governance platforms available for them to use digitization to the fullest and save time but they agreed that they don't expect a reliable accessibility and quality of service from these platforms. Trust was a concern for the interviewees but it didn't have too strong of a connection for them with satisfaction as respondents agreed that their trust in government is low. Regarding behavioral Intentional respondents agreed that after using different e-governance platforms they do intend to use them again and many digital platforms for government are their first choice in relation to in person office visit(s) for the same services.

Interviewee 1: A 24-year-old employed professional shared her experience of using e-governance platform for applying for renewal of her passport. She said, " I was surprised how easy it was to apply for renewal of passport at the ease of my home. All the information needed was already there online and I could easily navigate my way around. Best feature is the video tutorial available on this platform that allowed me an even smoother experience. The experience encouraged me that our government is taking the right measures of citizen ease which built a little trust in me and I am definitely encouraged to use more of the digital platforms in the future"

Interviewee 2: A 22-year-old student shared her experience: 'I applied for attestation of my degrees online via digital portal. I am very happy for the time it saved me. I would have to spend money and time to visit the office and end up waiting in queue for a long time. I'm happy with the e-governance service and I would use it again. I'm even open to explore more digital services provided by the government of Pakistan.'

Regarding behavioral Intention, all the people interviewed said that they plan to use e-governance platforms again because they found them convenient and easy to use. These digital platforms have become their top choice for various government services instead of going to government offices in person. But they shared there's only limited e-government services being offered and even visibility of these services is an issue. User behavior in all respondents was seen to exist as they were satisfied by the services received even though with the believe that there needs much improvement still. Upon further questions respondents explained their reliance on digital tools for their everyday use such as getting to know updated information on some areas being closed or some traffic or general rules updated. When one respondent was asked to explain if they have used

any e-governance platform they shared their experience of applying digitally for driving license. They shared how this experience saved them time and made the experience hassle free. Interviewee 3: “I am a forgetful person and often don’t remember details such as NIC (National Identity Card) number or even forget these documents home. I’m happy to share that e-government platform GoPunjab actually has solved this problem and I don’t have to physically take these documents everywhere. Not only it saves me space but also removes the danger of misplacing them. I’m satisfied from the e-governance services and going to use them.” Another respondent shared that they had a challan (a ticket) that they received from government in breaking a traffic rule but due to apps instability they could only view the information and not make the payment online which made them upset.

Respondents, despite expressing concerns and mistrust in the government of Pakistan, exhibited a significant level of acceptance towards technological solutions in the context of e-governance. They recognize the potential of these digital initiatives as a means to propel the country forward and efficiently manage governmental affairs. Many respondents believe that embracing e-governance can lead to advancements in various sectors and significantly save time as the nation progresses. The respondents' acceptance of technology-driven e-governance solutions highlights their recognition of the advantages these platforms offer in streamlining bureaucratic processes and improving public service delivery. By adopting digital solutions, they envision a more responsive and efficient government that caters to the needs of citizens swiftly and effectively. Despite their reservations regarding traditional governance, respondents are optimistic about the transformative impact of e-governance in Pakistan. They see it as an opportunity for the country to embrace digital transformation, harness technological innovations, and foster a more inclusive and citizen-centric approach to governance.

5.1. Discussion:

It is very evident from both qualitative and quantitative analysis that both the data collected support each other and prove that youth in Pakistan is driving the acceptance of technology as they are open about what level of satisfaction, trust and experience they have and want to attain with the technology advancement. Though people in Pakistan don’t have significant trust in government

but they are satisfied with the digital services as it enables them to save time and resources and hence, they intend to and actually use these platforms. We found that for Pakistani youth trust in government was not correlated with trust in e-government service provision. Research shows emphasizes that when a government functions well and is perceived as effective, it boosts the public's trust, in such cases e-government acts as a mediator in this connection, helping to enhance the relationship between good governance and the trust people have in their government (Jameel et al., 2019). Yet the response from the data collection in this paper shows that Pakistani government doesn't function well. The respondents want the government to function well and restore their trust in them and evidently trust and drive the adoption of technology in e-governance realm. Though it can be concluded that use of technology builds a false perspective that government is functioning well. Results show that Pakistani youth thinks not too highly of the political instability and level of corruption prevailing in the country but this doesn't directly impact their tech savviness and drive to have e-governance platforms and its improvement. Pakistani youth see digital solutions as tools for transparency and accountability alongside convenience and speediness.

The study's results confirm that awareness significantly impacts citizens' intention to utilize e-government services, whether for accessing information or conducting transactions through government websites (Rehman, Esichaikul, et al., 2012). Results revealed that perceived risk, trust in the internet, trust in the government and information security are highly influential variables that influence citizens' intention to adopt e-government services to conduct transactions with government websites (Rehman, Kamal, et al., 2012b).

6. Conclusion:

Governments must acquire the appropriate knowledge and skills to effectively address the challenges faced by the citizens, while simultaneously addressing and resolving the persistent issues present in the political, economic, and social landscape. (Labelle, 2008). Evidently youth is tech savvy and want digital solutions to public services in Pakistan. Youth in Pakistan is the driving force in technology adoption in Pakistan. Despite their mistrust in government due to political conflict and economic instability, their usage of e-government platforms and emphasis of betterment and inclusion in these services showcase their trust in the e-governance as a tool for accountability, transparency, stability, convenience and economic wellbeing. Instead of interaction, very passive communication (one-directional) is present in the current e-governance platforms and initiatives by government of Pakistan (Aman & Jan, 2022). The research outcome corresponds to the assertion made by Horsburgh et al. (2011) that trust in government was not correlated with trust in e-government service provision but was associated with support for e-government investment. This is only the perception rather than being the true reality; meaning that a corrupt government doesn't necessarily stop being corrupt because of e-government services but the perception of the citizens may change nevertheless. Government agencies should account the viewpoints of citizens who utilize e-government services, which could yield significant insights into the usability and accessibility of the e-governance services. (Butt et al., 2019).

7. Limitations and future research:

In any research, there may be factors that are unwanted and can limit the study. In my research, I used convenience sampling, which means there is potential for further expansion and study. Unwanted factors can include variables that are not controlled by the researcher but may influence the decisions made within the model. It is important to identify these factors and for the researcher to analyze the limitations of the study. When studying factors such as user satisfaction and user behavior, there were some limitations. The sample was collected using a virtual Google form questionnaire, which may have affected the results of the study. The small sample size may limit the generalizability of the findings. The Interview part of the study focuses on only two cities, which might not represent the entire population of Pakistan. Potential biases in participant selection and interview responses could affect the study's validity. There are two main issues to consider when generalizing research findings. Firstly, certain behaviors may be influenced by external conditions, making it difficult to apply the results to other contexts. Additionally, variables that are not accounted for in the study may impact the relationships being examined. Another limitation is that some people may be reluctant to fill out surveys or may not respond carefully, which could introduce bias into the results.

Increase the sample size to include more participants from different regions and backgrounds. Consider employing additional qualitative data collection methods, such as focus group discussions or document analysis, to triangulate the findings. Address potential biases and limitations by employing different strategies. The insights gained from this study can be useful for policymakers, government officials, and e-governance practitioners to enhance the quality of e-governance services and create a more efficient and effective digital government.

1. Take advantage of tech savviness of youth:

This positive perception of e-governance amongst youth serves as a potential driving force for policymakers and government authorities to strengthen and expand digital initiatives. Addressing concerns and building trust will be crucial in encouraging broader adoption and utilization of e-governance services among citizens. The respondents' enthusiastic embrace

of technology in e-governance presents an opportunity for the government to capitalize on the positive sentiment and invest in the development of robust and user-friendly digital platforms. By fostering a culture of innovation and continuous improvement, the government can ensure that e-governance becomes a cornerstone of a modern and progressive Pakistan.

2. Resolution for corruption:

The adoption of Information and Communication Technology has resulted in lower levels of corruption and increased transparency in government operations. It has also allowed for greater citizen involvement in decision making (Juurikas, 2015). Digital solution in public services are seen by the youth as a gateway to transparency and resolution to corruption.

3. Localization vs Internationalization cultural strategy:

Government needs to work on its e-governance strategy to cater the citizen's needs in best possible way. Current strategy seems like an attempt to localization strategy to make the platforms for local citizens as friendly as possible but keeping in mind that despite English and Urdu other languages are not catered in these digital platforms and this acts as a filter out for other provinces and cities that don't speak either of these languages which are in majority. As there are only few cities in Punjab province that speak Urdu (National language of Pakistan) rest of the country has its own regional language(s).

4. Trust:

Trust came out to be a factor that is easily ignored when it comes to adoption, usage and reuse intention of digital services from the government though for Pakistan trust holds an even important stance. Further studies are encouraged to work more on trust in this sphere as for citizens of Pakistan. Perhaps this can lead to future studies further looking into citizen's awareness of digital services and the medium used for the provision and awareness of the e-services in this perspective as well. (Z. Haider et al., 2015) found that perceived uncertainty, perceived safety, and perceived ability to use were positively related to trust in e-government.

5. Youth representation in government institutes:

Another suggestion is to include youth representation in the e-government institutes that are required for the decision making for the majority of the citizens, being youth, in Pakistan. A representation of youth in these institutes will shake the usual culture of old generation swapping the decision-making authority and would make more inclusive culture in these government institutes which in turn will create e-services to cater the needs of the youth better.

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Appendix A: Questionnaire

The effects of user satisfaction on User behavior within e-governance context of Pakistan

1. Age *

15 – 20

20 – 25

25 – 35

2. Gender*

Male

Female

3. Educational Qualification*

- High School diploma or equivalent
- Associate's degree
- Bachelor's degree
- Master's degree
- Doctorate or PhD

4. Monthly income (PKR)*

- 35000-75000 PKR
- 75000-110,000 PKR
- 110,000 - 150,000 PKR
- 150,000 to Above PKR

5. Have you ever used e-governance platform in Pakistan? *

- Yes
- No

6. I'm satisfied with the level of security and privacy provided by e-governance services in Pakistan *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

7. I have sufficient awareness of e-governance initiatives and platforms in Pakistan *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

8. I trust the e-governance services in Pakistan *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

9. I'm satisfied with the quality of e-governance services in Pakistan *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

10. I'm satisfied with the quality of e-governance services in Pakistan *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

11. I am willing to say positive things about e-governance platforms in Pakistan *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

12. I'm interested in what others think about e-governance in Pakistan *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

13. I often use e-governance services in Pakistan *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

14. I do believe that e-governance services in Pakistan are user-friendly and easy to navigate*

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

15. I would feel a loss if e-gov services are not available anymore *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

16. I would recommend e-governance services to others *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

17. I have used e-governance services in Pakistan *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

18. I'm more likely to use e-governance products rather than physical ones if it satisfies my needs *

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

19. I plan to use e-governance services in Pakistan again in the future?

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

20. Not having e-government services will affect me *

- Strongly disagree
- Disagree
- Neutral

- Agree
- Strongly agree

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